

Remarks

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

The specification and abstract have been reviewed and revised to make a number of editorial revisions. Due to the number of changes involved, a substitute specification and abstract have been prepared and are submitted herewith. No new matter has been added.

Further, claims 1, 8, 9, 16, 21-41, 43, 44 and 51-64 have been amended to make a number of editorial revisions. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, nor to address issues related to patentability and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

Claims 1-64 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,751,184, claim 1 of U.S. Patent No. 6,794,006, claim 1 of U.S. Patent No. 6,743,496 and claim 1 of U.S. Patent No. 6,670,014.

Enclosed herewith is a Terminal Disclaimer linking the present application to U.S. Patent No. 6,751,184, U.S. Patent No. 6,794,006, U.S. Patent No. 6,743,496 and U.S. Patent No. 6,670,014. As a result, withdrawal of the rejections under the judicially created doctrine of obviousness-type double patenting is respectfully requested.

Claims 1-3, 9, 16, 26-28, 34 and 41 have been rejected under 35 U.S.C. §102(b) as being anticipated by Yasuda (US 6,221,455). Claims 1-3, 9, 16, 26-28, 34 and 41 have been rejected under 35 U.S.C. §102(b) as being anticipated by Kojima (US 6,416,837).

Claim 16 has been amended so as to include the limitation of claim 17 and claim 17 has been canceled without prejudice or disclaimer to the subject matter contained therein. As a result, the above rejections of claim 16 are no longer applicable.

Claim 41 has been amended so as to include the limitation of claim 42 and claim 42 has been canceled without prejudice or disclaimer to the subject matter contained therein. As a result, the above rejections of claim 41 are also no longer applicable.

The remainder of the rejections are respectfully traversed and submitted to be inapplicable to the claims for the following reasons.

Claim 1 is patentable over Yasuda and Kojima, since claim 1 recites an information recording medium including, in part, a first recording layer containing Ge, Te and Bi, and a second recording layer containing SB and at least one element M1 selected from a group consisting of V, Mn, Ga, Ge, Se, Ag, In, Sn, Te, Pb, Bi, and Au. Both Yasuda and Kojima fail to disclose or suggest the first and second recording layers recited in claim 1.

Yasuda discloses a multi-layered optical disc 1 having a light reflecting layer 3, a second information recording layer 4, a transparent layer 5, a first information recording layer 6, and a light transmitting layer 7. The second information recording layer 4 is disclosed as containing a phase change material, such as InSe-based chalcogenides, SbSe-based chalcogenides, InSbSe-based chalcogenides, GeSbTe-based chalcogenides, GeSbTeSe-based chalcogenides, GeSbTeN-based chalcogenides, AgInSbTe-based chalcogenides, AgInSbSeTe-based chalcogenides or AgInSbTeN-based chalcogenides. (See column 4, lines 58-65; column 9, line 61 – column 10, line 9; and Figure 1).

As discussed above, Yasuda does disclose that the optical disc 1 has the first information recording layer 6 and the second information recording layer 4. However, it is apparent that Yasuda fails to disclose or suggest the contents of the first information recording layer 6. Therefore, Yasuda necessarily fails to disclose or suggest that the first information recording layer 6 contains Ge, Te and Bi. As a result, claim 1 is patentable over Yasuda.

Kojima discloses an information recording medium 52 having a first information recording medium 20 and a second information recording medium 29. The first information recording medium 20 has a first recording layer 17 that includes a crystallization-ability improving layer 3 and a phase change layer 4. The second information recording medium 29 has a second recording layer 24. The phase change layer 4 is disclosed as containing a Te-based material. (See column 9, lines 1-31; column 11, lines 22-65; and Figure 3).

As discussed above, Kojima does disclose the information recording medium 52 having the first recording layer 17 and the second recording layer 24. However, Kojima fails to disclose or suggest that the second recording layer 24 contains SB and at least one element M1 selected from a group consisting of V, Mn, Ga, Ge, Se, Ag, In, Sn, Te, Pb, Bi, and Au. As a result, claim 1 is also patentable over Kojima.

As for claim 26, it is patentable over Yasuda and Kojima for reasons similar to those discussed above in support of claim 1. That is, claim 26 recites, in part, that a sputtering target

containing Ge, Te and Bi is used in the forming of the first recording layer, and a sputtering target containing Sb and at least one element M1 selected from a group consisting of V, Mn, Ga, Ge, Se, Ag, In, Sn, Pb, Te, Bi and Au is used in the forming of the second recording layer, which features are not disclosed or suggested by the references.

Claim 9 is patentable over Yasuda and Kojima, since claim 9 recites an information recording medium including, in part, first recording layer containing Ge, Te and Sb, and a second recording layer containing Sb and at least one element M1 selected from a group consisting of V, Mn, Ga, Ge, Se, Ag, In, Sn, Te, Pb, Bi and Au. Both Yasuda and Kojima fail to disclose or suggest the first and second recording layers recited in claim 9.

As discussed above, Yasuda discloses the multi-layered optical disc 1 having the first information recording layer 6 and the second information recording layer 4 containing the phase change material, such as InSe-based chalcogenides, SbSe-based chalcogenides, InSbSe-based chalcogenides, GeSbTe-based chalcogenides, GeSbTeSe-based chalcogenides, GeSbTeN-based chalcogenides, AgInSbTe-based chalcogenides, AgInSbSeTe-based chalcogenides or AgInSbTeN-based chalcogenides. (See column 4, lines 58-65; column 9, line 61 – column 10, line 9; and Figure 1). However, it is apparent that Yasuda fails to disclose or suggest the contents of the first information recording layer 6. Therefore, Yasuda necessarily fails to disclose or suggest that the first information recording layer 6 contains Ge, Te and Sb. As a result, claim 9 is patentable over Yasuda.

As also discussed above, Kojima discloses the information recording medium 52 having the first information recording medium 20 and the second information recording medium 29. The first information recording medium 20 has the first recording layer 17 that includes the crystallization-ability improving layer 3 and the phase change layer 4. The second information recording medium 29 has the second recording layer 24. The phase change layer 4 is disclosed as containing a Te-based material. (See column 9, lines 1-31; column 11, lines 22-65; and Figure 3). However, Kojima fails to disclose or suggest that the second recording layer 24 contains Sb and at least one element M1 selected from a group consisting of V, Mn, Ga, Ge, Se, Ag, In, Sn, Te, Pb, Bi, and Au. As a result, claim 9 is patentable over Kojima.

As for claim 34, it is patentable over Yasuda and Kojima for reasons similar to those discussed above in support of claim 9. That is, claim 34 recites, in part, that a sputtering target containing Ge, Te and Sb is used in the forming of the first recording layer, and a sputtering


target containing Sb and at least one element M1 selected from a group consisting of V, Mn, Ga, Ge, Se, Ag, In, Sn, Pb, Te, Bi and Au is used in the forming of the second recording layer, which features are not disclosed or suggested by the references.

Because of the above-mentioned distinctions, it is believed clear that claims 1-16, 18-41 and 43-64 are allowable over the references relied upon in the above-mentioned rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-16, 18-41 and 43-64. Therefore, it is submitted that claims 1-16, 18-41 and 43-64 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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